



Pinellas Environmental Restoration Project

Northeast Site Non-Aqueous Phase Liquids Interim Measure Progress Report April Through June 2005

July 2005



Office of Legacy Management

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Interim Measures Progress Report**

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Work Performed by S.M. Stoller Corporation under DOE Contract No. DE-AC01-02GJ79491
for the U.S. Department of Energy Office of Legacy Management, Grand Junction, Colorado

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1.0 Introduction

This quarterly report for the in-situ thermal remediation of non-aqueous phase liquids (NAPL) at the Northeast Site covers the period of April through June 2005. Previous reports provided background information for the site, a description of the remediation process, an overview of construction and operation activities for NAPL Area A, a description of the final activities for the Area A remediation system, including demobilization, confirmatory sampling, and the final report. Additionally, recent quarterly reports contained a description of planning and construction activities for a similar treatment system at NAPL Area B ([Figure 1](#)).

The subcontract for Area B NAPL remediation was awarded to the team of WRS Infrastructure and Environment, Inc., McMillan-McGee Corporation, and PPM Consultants, Inc. in late February 2004. The subcontractor completed the final conceptual design for Area B NAPL remediation in early April, and this was submitted to Florida Department of Environmental Protection (FDEP) in mid-April 2004 as the *Addendum to the Interim Measures Work Plan for Remediation of Non-Aqueous Phase Liquids at the Northeast Site (Area B Conceptual Design)* (DOE 2004). FDEP approval of this document was received in June 2004. Final design drawings were submitted to FDEP at the end of June 2004. Construction activities began in early July 2004.

Activities during this current quarter consisted mainly of delivery and installation of the surface electrical heating equipment and the surface treatment system components.

2.0 Summary of Activities

Surface components of the electrical heating system, such as the transformer, power delivery systems, and water circulation equipment, were delivered to the site, installed, and wired. The WRS team completed testing of the surface vapor and liquid treatment system at their Monroe, Louisiana facility, delivered the system to the site, and installed the system and the associated wiring and piping ([Photo 1](#)). Other equipment, such as the extraction well pumps, steam generator, emergency generator, and various tanks were delivered to the site and installed. Additionally, construction progress review meetings were held in late April and late June.

Sampling of the six new wells inside former NAPL Area A (0573–0578) and the eight wells located just outside the area (0560–0567) ([Figure 2](#)) continued with routine quarterly sampling activities in April. The results for Northeast Site COPCs from the July and October 2004 and January and April 2005 sampling events are shown in [Table 1](#). These data demonstrate that contaminant concentrations remain low both inside and around the periphery of the former NAPL area, and provide clear evidence that NAPL remediation was successful with no rebound in contaminant concentrations. Ground water temperatures from the six interior wells averaged 109, 100, and 93, and 88 °F in July 2004, October 2004, January 2005, and April 2005, respectively. These data indicate that significant cooling is occurring inside the former remediation area, although the subsurface temperature remains slightly elevated more than two years after active heating ceased.

3.0 Deviations

No deviations were encountered during this quarter.

4.0 Problems

No problems were encountered during this quarter.

5.0 Upcoming Activities

Activities for the next quarter, July through September 2005, consist of the following. In July, the WRS team will submit an Operations and Monitoring Plan, as well as revised versions of the Health and Safety Plan, Quality Control Plan, and Sampling and Analysis Plan, to DOE for review and approval. All construction activities will be finalized by early August, including system testing and checkout. An operations readiness review meeting will be held on August 2. The start of system operations is scheduled for August 9, 2005 with operations continuing until March 2006.

6.0 References

U.S. Department of Energy, 2004. *Addendum to the Interim Measures Work Plan for Remediation of Non-Aqueous Phase Liquids at the Northeast Site (Area B Conceptual Design)*, DOE-LM/GJ635-2004, Document Number N0075500, April.



Photo 1. Surface Treatment System During Installation

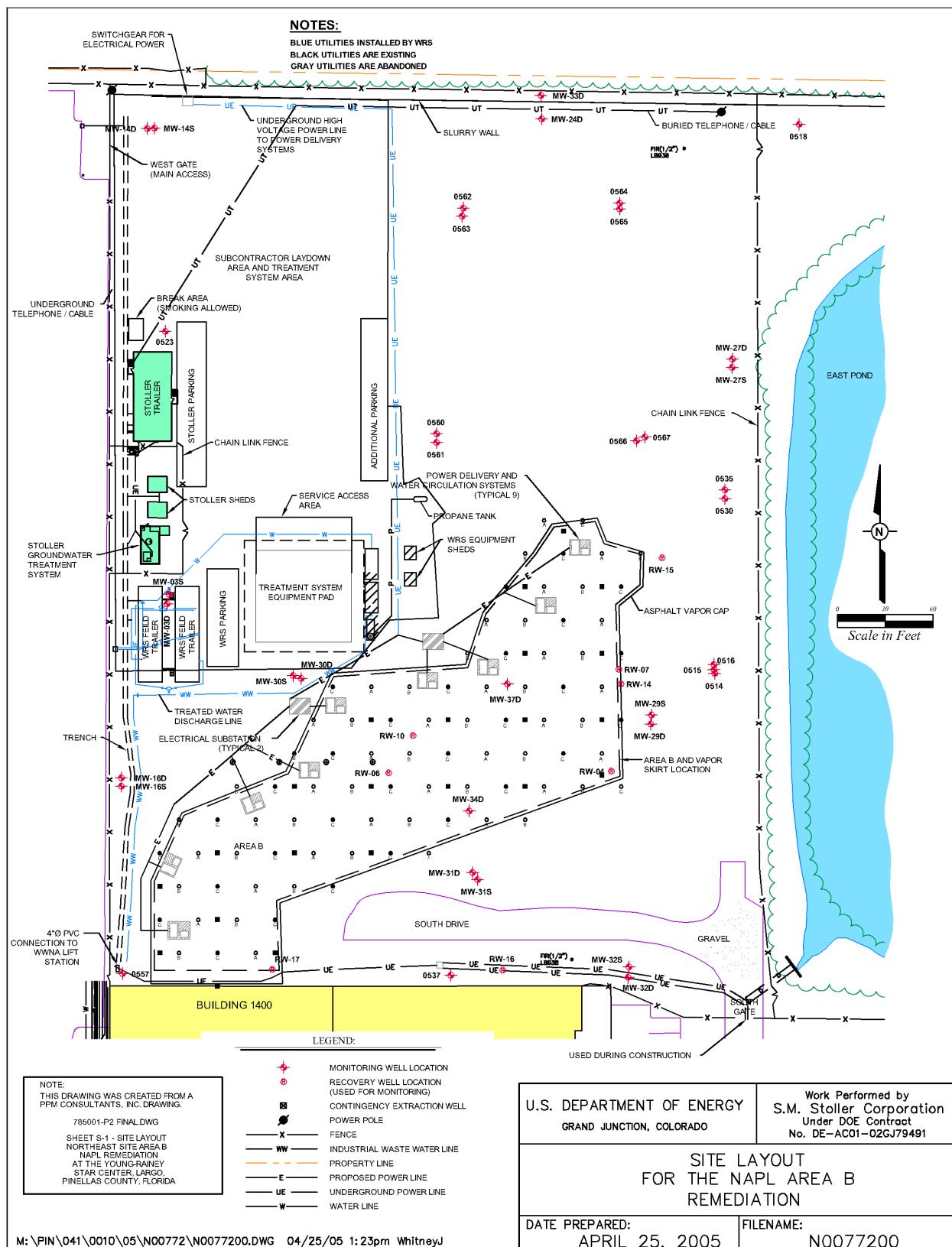


Figure 1. Location of New Infrastructure and NAPL Area B Remediation System Layout

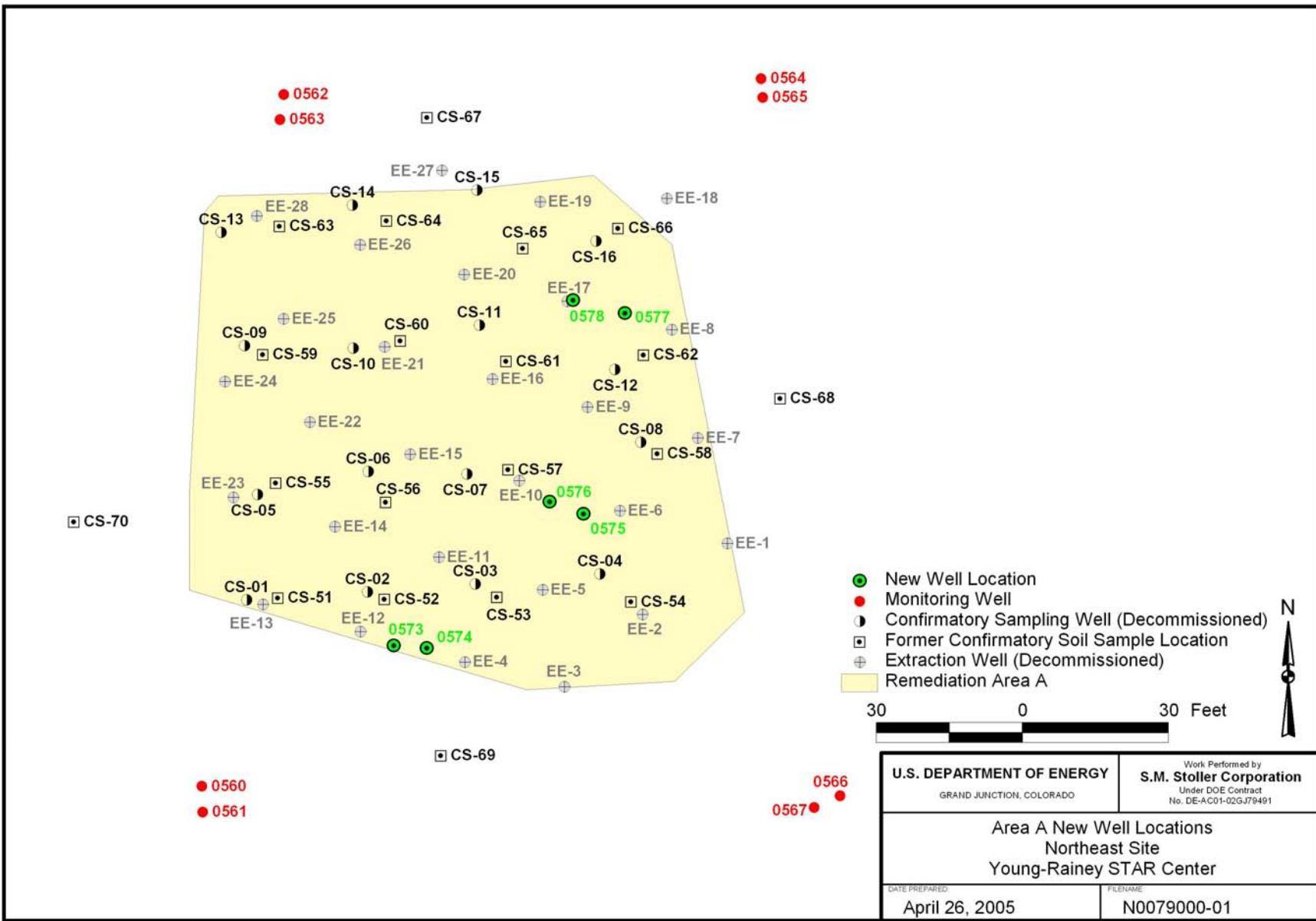


Figure 2. Location of New Monitoring Wells at Former NAPL Area A

Table 1. Results From the July and October 2004 and January and April 2005 Sampling of the Six New Monitoring Wells in Former NAPL Area A, Plus Recent Data From the Eight Peripheral Wells. The eight peripheral wells were not sampled in July 2004. All concentrations are in µg/L.

Well	Date Sampled	TCE	cis-1,2-DCE	Vinyl chloride	Methylene chloride	Benzene	Toluene
Interior Wells							
0573	7/13/2004	<2.5	63.3	<2.5	<5	<2.5	<2.5
	10/11/2004	<0.5	12.6	12.7	<1	0.66J	1.2
	1/11/2005	<0.5	19.7	22.9	<1	0.89J	1.5
	4/7/2005	<0.5	5.3	24.8	<1	0.71J	1.3
0574	7/13/2004	6.6	351	210	<5	<2.5	<2.5
	10/7/2004	35.4	330	58.9	<1	0.96J	0.81J
	1/11/2005	32.9	86.1	28.2	<1	0.76J	0.84J
	4/7/2005	15.4	39	13.8	<1	<0.5	<0.5
0575	7/23/2004	<0.5	1.5	77.1	<1	<0.5	4.5
	10/11/2004	<0.5	4.4	35.9	<1	2.1	1.9
	1/11/2005	<0.5	5.4	34.9	<1	1.9	2.2
	4/15/2005	<0.5	2.8	15.1	<1	1.1	1.1
0576	7/23/2004	<0.5	3	<0.5	<1	0.85J	0.6J
	10/7/2004	<0.5	14.1	6.5	<1	0.63J	<0.5
	1/11/2005	<0.5	18.7	11.2	<1	0.95J	<0.5
	4/15/2005	<0.5	27.8	20.1	<1	0.68J	<0.5
0577	7/23/2004	<0.5	<0.5	339	<1	<0.5	394
	10/7/2004	<5	<5	441	<10	6.3J	234
	1/12/2005	<2.5	14.5	276	<5	5.7	21.1
	4/15/2005	1.3	2.6	33	<1	4.1	6.6
0578	7/23/2004	<0.5	5.7	24.4	<1	<0.5	1.7
	10/11/2004	<0.5	10.2	25.2	<1	<0.5	0.91J
	1/12/2005	<0.5	8.3	7.9	<1	<0.5	<0.5
	4/15/2005	<0.5	4.6	2.9	<1	<0.5	<0.5
Eight Peripheral Wells							
0560	10/12/2004	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	1/12/2005	<0.5	<0.5	<0.5	<1	<0.5	<0.5
0561	10/12/2004	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	1/12/2005	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	4/15/2005	<0.5	<0.5	<0.5	<1	<0.5	<0.5
0562	10/7/2004	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	1/11/2005	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	4/6/2005	<0.5	<0.5	<0.5	<1	<0.5	<0.5
0563	10/8/2004	<0.5	2.1	<0.5	<1	<0.5	<0.5
	1/11/2005	<0.5	1.4	<0.5	<1	<0.5	<0.5
	4/7/2005	<0.5	1.3	<0.5	<1	<0.5	<0.5
0564	10/12/2004	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	1/11/2005	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	4/14/2005	<0.5	<0.5	<0.5	<1	<0.5	<0.5
0565	10/12/2004	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	1/11/2005	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	4/14/2005	<0.5	<0.5	<0.5	<1	<0.5	<0.5

Well	Date Sampled	TCE	cis-1,2-DCE	Vinyl chloride	Methylene chloride	Benzene	Toluene
0566	10/12/2004	<0.5	4.7	4.5	<1	1.5	<0.5
	1/12/2005	<0.5	3.8	3.8	<1	1.3	<0.5
	4/14/2005	<0.5	4.9	4.8	<1	1.4	<0.5
0567	10/12/2004	1.8	68	34.5	<1	12.8	<0.5
	1/12/2005	1.3	52.3	22.7	<1	7.2	<0.5
	4/14/2005	1.2	49.5	24.7	<1	5.6	<0.5
	MCL:	3	70	1	5	1	1,000

"<" values are reporting limit.

J = Estimated value between the method detection limit and the reporting limit.